

**I / We claims**

1. Novel oligonucleotide primers having SEQ ID NO: 1, SEQ ID No: 2, SEQ ID NO: 3 and SEQ ID NO: 4 for amplification of the kinesin-related gene of *Leishmania* species.
- 5 2. A method for detecting and differentiating visceral leishmaniasis (VL) and post kala-azar-dermal leishmaniasis (PKDL) causing strains of *Leishmania donovani* in a sample, the said method comprising the steps of :
  - a) isolating DNA from a sample;
  - b) amplifying the target region from the DNA of step (a) using novel  
10 oligonucleotide primers having SEQ ID NO: 1, SEQ ID No: 2, SEQ ID NO: 3 and SEQ ID NO: 4, and heat stable DNA polymerase to obtain amplified fragments;
  - c) separating the amplified fragments of step (b); and
  - d) analyzing the fragments of step (c) to detect and differentiate VL and PKDL  
15 causing strains of *Leishmania donovani* based on the banding pattern of the amplified fragments.
3. A method of claim 2, wherein in step (a) the sample is either clinical sample or culture sample.
4. A method of claim 3, wherein the clinical sample is selected from a group consisting  
20 of blood, bone marrow aspirate, bone marrow biopsy, splenic aspirate, splenic biopsy, liver aspirate, liver biopsy, lymph node aspirate, lymph node biopsy, skin scrapping, slit biopsy and other tissue materials.
5. A method as claimed in 2 wherein in step (b) the heat stable DNA polymerase is *Taq polymerase*.
- 25 6. A method as claimed in 2 wherein in step (b) the amplification is done by polymcrase chain reaction.
7. A method as claimed in 2 wherein in step (c) the separation is done preferably by gel electrophoresis.
8. A method as claimed in 2 wherein in step (d) the detection is by ethidium bromide  
30 or other DNA stains.

9. A diagnostic kit for detection and differentiation of VL and PKDL causing strains of the *Leishmania donovani*, comprising of novel oligonucleotide primers having SEQ ID NO: 1, SEQ ID No: 2, SEQ ID NO: 3 and SEQ ID NO: 4, reaction buffer, *Taq* polymerase, DNA marker, positive and negative control samples and instruction manual.
10. A method for detecting and differentiating VL and PKDL causing strains of *Leishmania donovani* as herein described with reference to examples and figures.